KUTILEK, Miroslav, inz., C.Sc.

Effect of humus on hygroscopic soil water. Vodohosp cas 10 no.3:321-329 '62.

1. Katedra hydromelioraci, Ceske vysoke uceni technicke, Praha.

KUTILEK, Miroslav, inz., C.Se.

Hygroscopic soil water. Vodohosp cas 10 no.1:11-29 '62.

1. Katedra hydromelioraci, Cesko vysoke uceni technicke, Praha.

KUTILEK, Miroslav, ins., C.Sc.

Hygroscopic soil water (II). Vodohosp cas 10 no.2:156-173 '62.

1. Katedra hydromelioraci, Ceske vysoke uceni technicke, Praha

KUTILEK, M., doc., inz., Sc.C.

Determining the spacing of collecting drains. Vodni hosp 12 no.12:482-483 D '62.

1. Katedra hyromeliorací, Ceske vysoke ucení technicke, Praha.

KUTILEK, Miroslav, doc., inz., CSc.

Field determination of the soil permeability coefficient below the water table. Rost vyroba 9 no. 12:1283-1288 D '63.

1. Katedra hydromelioraci, Ceske vysoke uceni technicke, Praha, vedouci katedry doc. inz. dr. Milos Holy, CSc.

KUTILEK, Miroslav, doc., inz., CSc.

Effect of clayey minerals on soil moisture properties. Vodni hosp 13 no.7:267-269 '63.

1. Katedra hydromelioraci, Praha.

KUTILEK, Miroslav, prof. inz. CSc.;

The influence of soil colloids upon the values of some hydrolimits. Rost vyroba 10 no. 5/6:609-622 My-Je '64.

1. Chair of Irrigation Engineering, Czech Higher School of Technology, Prague.

KUTILEK, M., doc. inz. CSc.

Application of the conclusions of the 8th International Pedologic Congress in scientific research. Vodni hosp 15 no.3:124 '65.

VINNICHENKO, P.G., kandidat tekhnicheskikh nauk; KUTILIN, I.I., inzhener.

Introducing rapid drying mold mixes for steel casting. Lit. proizv. no.3:24-25 Mr '57. (MLRA 10:4)
(Steel castings) (Sand, Foundry)

AUTHOR: Anfimov, M.I., Zelenkov, S.N., Kutilin, N.D., and Khripunov, P.I., Engineers. 122-3-1/30

TITLE: The Design of Cast Gear Wheels (Konstruktsii litykh zubchatykh koles)

PERIODICAL: Vestnik Mashinostroyeniya, 1957, No.3, pp. 3 - 12 (USSR).

ABSTRACT: Recommendations found in Russian and foreign technical literature on the dimensioning of gear wheels are conflicting. A cast gear wheel is a statically-indeterminate system. Methods found in literature for calculating the stresses in elements of the gear wheel are so complex as to be rarely usable in design offices. A "unit-wheel system" is proposed, based on a wheel for a centre distance of unity. It is claimed that the proportions of such a wheel depend only on the sum of the tooth numbers and on the width factor. For any other centre distance the "unit-wheel" proportions have to be multiplied by the centre distance. Straight and helical spur gears and herringbone gears are considered, in the range of width factors between 0.2 and 0.6, total numbers of teeth between 9[illegible] and 300 and normal modules up to 24 mm. The range of cast gears extends from 500 to 2 500 mm outside diameter and up to 800 mm width. A chart shows five different designs of wheel cross-

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The Design of Cast Gear Wheels. 122-3-1/30

sections. The basic design has channel profile rim and hub cross-sections with I beam spokes. Narrow wheels or wheels of small diameter are of single I cross-section; very wide wheels have a central stiffening web at the rim. The choice of design depends on the wheel width and the wheel diameter. A table gives rough guidance. Four graphs, each for a different width factor, plotting the pitch diameter against the centre distance have a straight line for each constant total tooth number and are divided into regions for the different wheel designs. Having determined the type of design, Table 2 charts formulae for each of the dimensions in terms of the basic variables. To facilitate computation, Table 3 gives the numerical results, based on Table 2, for the unit wheel for several representative values of the total tooth number and of the width factor. A discussion with numerical comparisons given in Table 4 concludes that the results of Tables 2 and 3 based on A.I. Petrusevich [Ref.3] are subject to an insignificant variation only within the whole practical range of rim to spoke stiffness ratios. Their effect is examined by an analysis given in "Biezeno and Grammel". The main bending stresses in the rim and spokes are then computed after the development of an expression for the torque transmitted by the gear and the bending

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resistances of the rim and spoke cross-sections. The latter are tabulated for the unit wheel in Table 5. Table 6 shows that the bending stresses so obtained are within a narrow band and thus justify the conception of the unit wheel. The practice of dimensioning the rim thickness by the tooth module alone is incorrect. A graph shows that the ratio of rim thickness to tooth module changes with the total number of teeth. The relation recommended in this paper is compared with a number of wheels manufactured by Soviet, German and U.S. plants and is shown to be more consistent than these manufactured wheels. In Table 7, the rim thickness recommendations of the present paper are compared with those of a number of other Soviet sources and standards. There are 7 illustrations, including 2 graphs, 7 tables and 9 references, 8 of which are Slavic.

ASSOCIATION: Uralmashzavod

AVAILABLE: Library of Congress

Card 3/3

KRAUZE, G.N.; KUTILIN, N.D.; SYTSKO, S.A.; [illegible], [illegible], red.,
retsenzent

[Reducing gears; handbook] [illegible]; [illegible] -
ble. Moskva, Mashinostroenie, [illegible]. [illegible]
(MIRA [illegible])

PODUROVSKAYA, O.M.; KUTILINA, R.A.; YEFIMOVA, N.I.

Bromatometric determination of cyclohexanone oxime. Zav. lab. 27 no. 4:403-405 '61. (MIRA 14:4)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut azotnoy promyshlennosti i produktov organicheskogo sinteza.
(Cyclohexanone) (Potassium bromate)

KUTILOV, I.I.; KAGAN, L.D.

What is the result of the misuse of economic accountability. Kons. i ov. prom. 13 no.1:33 Ja '58. (MIRA 11:?)

1. Yeyskiy konservnyy zavod.
(Canning industry--Accounting)

IPATENKO, N.G.; NESTEROV, T.S., dotsent; KUTILOV, I.N., dotsent; AKOPYAN, Ye.Sh., kand.veterin.nauk; KARAVAYEV, V.M.; PENIONZHKO, A.M.; MAKAROV, V.A., assistent.

Veterinary sanitation expertise. Veterinariia 41 no.3:83-93 Mr '64. (MIRA 18:1)

1. Upravleniye tsentra Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh produktov RSFSR (for Ipatenko). 2. Vitebskiy veterinarnyy institut (for Nesterov, Kutilov). 3. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii (for Akopyan). 4. Moskovskaya veterinarnaya akademiya (for Makarov).

KUTILOVA, Vera Ivanovna; SKONECHNAYA, A.D., red.; KLYUCHEVA, T.D., tekhn. red.

[This is economically profitable] Eto ekonomicheski vygodno. Moskva, Izd-vo "Sovetskaia Rossiia," 1961. 38 p. (MIRA 14:8)

1. Zven'yevaya kolkhoza imeni Kalinina Kanevskogo rayona Krasnodarskogo kraya (for Kutilova)
(Kanevskiy District—Ducks)

[redacted], V. V.

[redacted], V. V. -- "The [redacted] of the [redacted] of Law." [redacted] State Pediatric Medical Inst. Perm', 1[redacted]. (Dissertation for the Degree of [redacted])

SO: [redacted], No 2, 1957

RAFALOVICH, M.B.; KUTILOVA, V.N.

Lipid content in the blood of persons of different age groups. Uch. zap. Stavr. gos. med. inst. 12:421-422 '63. (MIRA 17:9)

1. Kabinet geriatrii (nauchnyy rukovoditel' dotsent M.B. Rafalovich) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

S/204/62/002/004/014/019
E075/E435

AUTHORS: Bondarenko, A.V., Dolinkina, V.P., Kut'in, A.I. Farberov, M.I.

TITLE: Synthesis of vinylxylene from xylene and acetaldehyde

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 585-591

TEXT: The synthesis was carried out in two stages: stage 1 - condensation of xylene and acetaldehyde to produce dixylylethane, stage 2 - catalytic cracking of dixylylethane with the formation of vinylxylene and ethylxylene. The first reaction was conducted with 92 to 96% H_2SO_4 as catalyst, the molar ratio of the acid to acetaldehyde and xylene being 1:0.25:1. Technical xylene as well as individual isomers could be used in this reaction. An increase of the molar ratio of acetaldehyde to xylene above 0.25:1 lowered the yield of dixylylethane. The reaction temperature had no effect on the yield between -14 to +10°C, however, at 20°C the yield decreased markedly. Under the optimum conditions the yield reached about 36% of the xylene taken and 82% of the reacted xylene. The second reaction was conducted in the presence of a clay (kaolin) activated by heating in air at 550 to 570°C. The yield of vinylxylene increased with

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temperature up to 600°C and reaction time (the time of contact up to 0.2 sec). The yield of ethylxylene increased at the same time. Dilution of dixylylethane with steam, or working under a vacuum, increased the yield of vinylxylene and improved its quality. The optimum condition for the reaction are: temperature - 500°C, contact time - 0.05 sec, dilution with water vapour 1:28 (moles), final partial pressure in the system - 110 mm Hg. The yield under these conditions is about 62% of the feed. Vinylxylene obtained consists exclusively of 2,4-dimethylstyrene. There are 3 figures and 5 tables.

ASSOCIATIONS: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute of Monomers for Synthetic Rubber) Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Technological Institute)

SUKHOPRUDSKIY, N.D.; KUT'IN, A.I.

Electric power distribution workers exchange their experience in the use of automatic control equipment. Elek. i tepl. tiaga 7 no.3:18-19 Mr '63. (MIRA 16:6)

1. Rukovoditel' laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Sukhoprudskiy). 2. Starshiy inzhener laboratorii Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Kut'in).

(Electric railroads--Substations)
(Electric railroads--Electric equipment)

[illegible], Yuriy Iosifovich; KUT'IN, Aleksandr Ivanovich;
LAVINSKIY, Ya.A., red.

[Experience in operating the control apparatus of mercury rectifiers] Opyt ekspluatatsii apparatury rozhimnoi avtomatiki rtutnykh vypriamitelei. Moskva, Izd-vo "Energiia," 1964. 63 p. (Biblioteka elektromontera, no.119)
(MIRA 17:5)

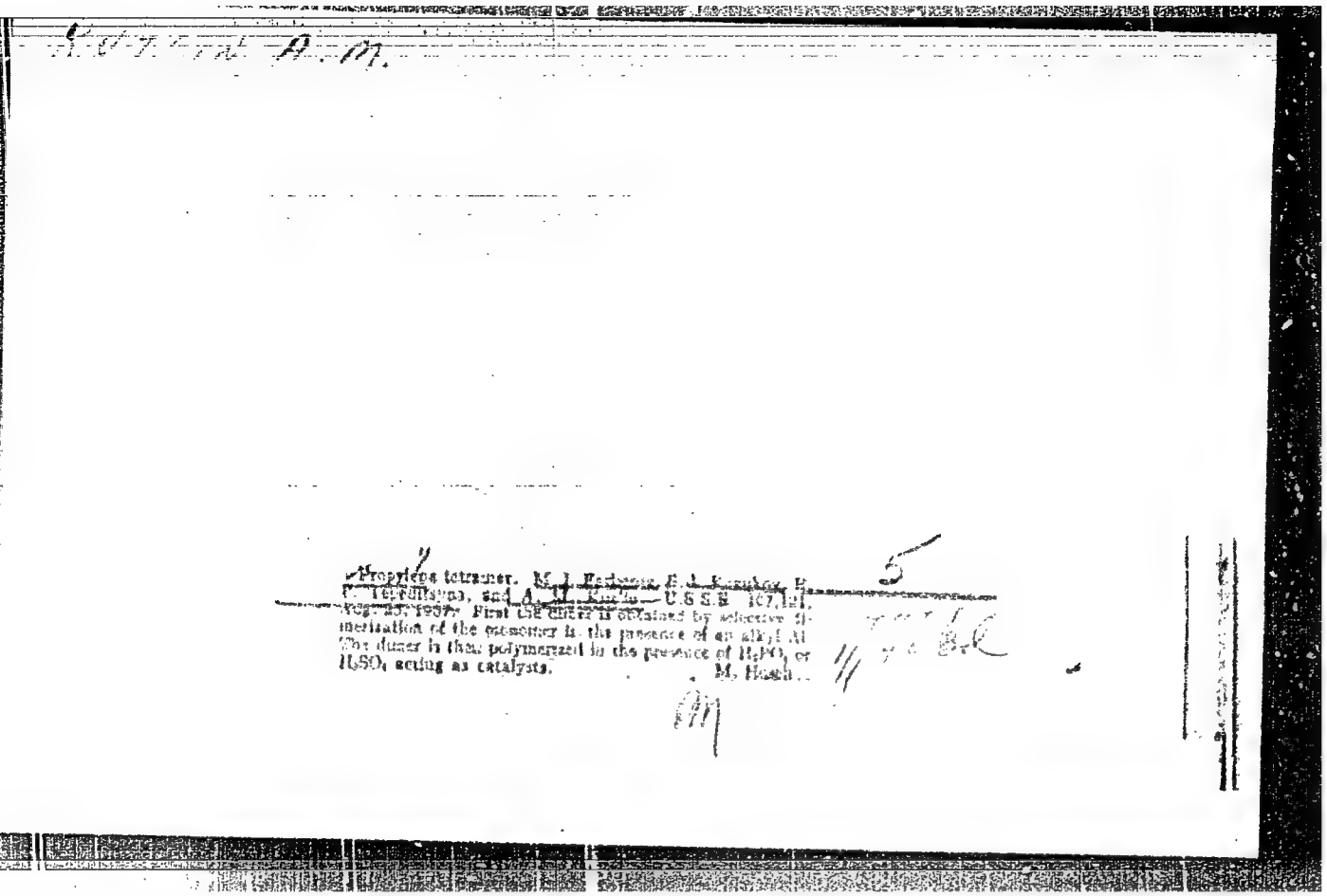
KUT'IN, A.I.; DMITRIYEVSKIY, G.V., inzh., otv. za vypusk; VOROB'YEVA, L.V., tekhn. red.

[Instructions on the installation, operation, and repair of the control apparatus of mercury-arc converters] Ukazaniia po montazhu, ekspluatatsii i remontu apparatury rezhimnoi avtomatiki rtutnykh preobrazovatelei. Moskva, Transport, 1964. 74 p. (MIRA 17:3)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye elektrifikatsii i energeticheskogo khozyaystva. 2. Starshiy inzhener otdeleniya elektrifikatsii Vsesoyuznogo tsentral'nogo nauchno-issledovatel'skogo instituta Ministerstva putey soobshcheniya (for Kut'in).

BULATOV, Toriy Antonovich, inzh.; GRIN'KOV, Boris Nikolayevich, inzh.; KUT'IN, Aleksandr Ivanovich, inzh.; MASHKOV, Vitaliy Andreyevich, inzh.; SUKHOPRUDSKIY, M.L., red.; AYBASHEVA, T.V., red.

[Automatic systems of d.c. traction substations] Ustroistva avtomatiki tiagovykh podstantsii postoiannogo toka. [By] T.A.Bulatov i dr. Moskva, Transport, 1965. 215 p. (MIRA 18:2)



Propylene tetramer. M. I. Fedotova, E. I. Kozliker, P. [illegible], and A. M. Rubin. U.S.S.R. 107,181, Aug. 25, 1957. First the dimer is obtained by selective dimerization of the monomer in the presence of an alkyl Al. The dimer is then polymerized in the presence of H_3PO_4 or H_2SO_4 acting as catalysts. M. Hosh...

KUTIN, A. M.

Reaction of the simplest olefins with aqueous solutions of [illegible] and acetaldehyde. M. I. Farberov, Ya. [illegible] M. Kutin, and [illegible] Shemyakina (Technol. [illegible]). Zhur. Obshchei Khim. 27, 2806-17(1957). [illegible] of simple olefins (1- and 2-butenes, 2-methyl [illegible] CH_2 [illegible] propylene fraction with [illegible] in autoclave with a [illegible] [illegible] operating pressure for more [illegible] for the propylene fraction. Mixed [illegible] H_2O gave 88% mixed alkyl 1,3-dioxanes, b. [illegible], n_D^{20} 1.4240, which passed with [illegible] over a [illegible] catalyst of types described by [illegible] Mikeska (C. A. 47, 5364f) gave 65.4% dienes [illegible] isoprene and [illegible] and trans-[illegible] [illegible] obtained from [illegible] (in parentheses). (Propylene fraction [illegible] 1,3-dioxane, b. 115.3°, d_{20} 0.9678, n_D^{20} [illegible] hydroxytetrahydropyran, b. 180 [illegible] 1,3-butanediol (5.2%), allylcarbinol, (0.8%) [illegible] (2-Butene-CH_2O) 4,5-dimethyl-1,3-dioxane, b. 134.6°, [illegible] 1.4223 (90%), 3-ethyl-4-hydroxytetrahydropyran, b. [illegible] 1.0331, 1.4611 [illegible] [illegible] 1-butenediol (prepd. [illegible] of the [illegible] CH_2-CH_2O) 4,4-[illegible] 1.4278 (73.4%) [illegible] 4,4-dimethyl [illegible] 1.4410 [illegible] [illegible] 16° [illegible] 0.8730 [illegible] 1.4150 [illegible] b. 130-40° [illegible] butene-CH_2O) [illegible] 1.4319 (88.5 [illegible] methyl-1,3-dioxane. [illegible] Me_2C CH_2-CH_2O) [illegible] tetramethyl [illegible] dioxane [illegible] 161.2°, 0.9527, 1.4162 [illegible] tetrahydropyran, b. 81 [illegible] (Butene-CH_2O) 4,4,5,6-[illegible] tetramethyl [illegible] b. 171 [illegible] 0.9457, 1.4254 (91%). The mechanism of the reactions [illegible] 1,3-dioxanes [illegible] allylcarbinol [illegible] b. 121.7-[illegible] 1.4461 [illegible] b. 129.9°, 1.0630, [illegible]

G. M. Kosolapoff

Distr: 4E4j

AUTHORS: Kryukov, S. I., Kut'in, A. M., Levskaya, G. S., 153-58-1-13/29
Tepenitsyna, Ye. P., Ustavshchikova, Z. P., Farberov, M. I

TITLE: An Improved Method of the Synthesis of Triethyl-Aluminum (Uluchshennyy sposob sinteza trietilalyuminiya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 86-93 (USSR)

ABSTRACT: The authors give a survey on the publications of trialkyl-aluminum as specific catalyst, both alone, as well as with cocatalysts for olefinic polymerization (references 1 to 3), and they compare with each other the known methods of production of aluminum-organic compounds (references 4 to 6). The authors selected the method by Grosse and Meviti (Mavity, ref. 5) as the most convenient one. A)- Production of ethylaluminum sesquichloride (mixture of ethylaluminum--dichloride and diethyl-aluminum-chloride). The first stage of the process according to reference 5 proved to be rather incomplete. It is difficult to be controlled, has a long period of induction and often leads to the complete destruction of the products, sometimes with explosion. The

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authors tried various initiators at atmospheric pressure (crystalline iodine, ethylaluminum-sesquichloride, ethylbromide and a mixture of these substances). Table 1 shows the influence of individual initiators on the period of reaction. Ethylbromide acted most efficiently. Table 2 shows the influence of the initial temperature with the supply of ethylchloride on the reaction-period. Optimum conditions for the carrying out of the process were selected from the obtained test results. Further tests were carried out on an enlarged plant (figure 1). The laboratory results were confirmed: It was possible to reduce the reaction--period to from 2 to 3 hours. B)- Reaction of symmetrization of ethylaluminum-sesquichloride. In order to obtain triethylaluminum, the above reaction must be carried out with the participation of metallic sodium. According to reference 5, various insufficiencies exercised a disturbing effect in this connection. The authors found the conditions for removing them: 1)- Sodium ought to be used in fine dispersion, the surplus of Na must not exceed 5 to 10% of the theoretically required quantity. 2) - Sesquichloride must be introduced in portions as a 20 to 30% solution in hydrocarbons. 3) - The temperature of reaction must not

exceed 130° and an intense agitation should be guaranteed. The gasoline-fraction "galosha" (boiling above 100°) proved most effective among several tested solvents. The yield of triethylaluminum amounted to 70 to 76% of the charged sesquichloride under the selected optimal conditions. A certain quantity of partly oxidized triethylaluminum was proved in the produced triethylaluminum. The inactive part of the catalyst formed a mixture of all 3 possible ethoxy--compounds. An experimental part follows. C) - Production of aluminum sesquichloride. According to the method described here, a 99% yield of that theoretically possible was obtained. The two (paragraph A) components were present in the mixture in approximately equimolar quantities. D) - The reaction of symmetrization was carried out in a device shown in figure 3. A filter required for this purpose is shown in figure 4.
There are 4 figures, 2 tables, and 12 references, 3 of which are Soviet.

ASSOCIATION: Yaroslavskiy tekhnologicheskiy institut i opytnyy zavod Ministerstva khimicheskoy promyshlennosti. Kafedra

An Improved Method of the Synthesis of Triethyl-Aluminum 153 58-1-13/29

tekhnologii osnovnogo organicheskogo sinteza i ... (Yaroslavl' ... Technological Institute and the Experimental Plant of the Ministry for Chemical Industry. Chair for the Technology of General Organic Synthesis and SK)

SUBMITTED: September 23, 1957

Card 4/4

AUTHORS: Farberov, M. I., Kut'in, A. M., Vernova, T. P., Shemyakina, N. K. SOV/156-58-1-36/45

TITLE: Industrial Synthesis of Allylcarbinol and Standard Butyl Alcohol on the Basis of Propylene and Formaldehyde (Tekhnicheskiy sintez allilkarbinola i normal'nogo butilovogo spirta na osnove propilena i formal'degida)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 1, pp. 148 - 152 (USSR)

ABSTRACT: In their laboratory the authors have for years studied syntheses based on olefine and formaldehyde (Refs 1,2). Allyl dioxanes-1,3 are converted into dienes. Catalysts and conditions were developed by means of which 80 - 90% of the theoretically possible diene yield could be obtained (Ref 2). By passing it over a catalyst in the presence of water vapor, 4-methyl dioxane-1,3 can be easily converted into divinyl. As further investigations have shown, the allylcarbinol yield can be substantially increased by carrying out the contact process under less severe conditions (lower temperatures, shorter contact time; Fig 1). Figure 2 shows the influence of temperature upon the allylcarbinol yield, given in molar per cent

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related to methyl dioxane. Table 1 shows the results of a typical balance experiment; under such conditions as were chosen here, the weight ratio of the allylcarbinol and divinyl yields, related to the decomposed methyl dioxane, may be even a little greater than unity. The author' idea about the mechanism of this reaction is as follows: The catalyst (a calcium phosphate mixture) possesses hydrolyzing and at the same time dehydration properties (Ref 9). With the same catalyst, and under the same conditions, trimethyl carbinol is dehydrated to isobutylene with a quantitative yield. The 1. reaction stage is therefore the hydrolysis of methyl dioxane (I) in the presence of water vapor to butandiol-1,3 (II), with separation of formaldehyde. Butandiol is further dehydrated, being converted to allylcarbinol (III) and divinyl (IV). Propylene is formed in small quantities due to a cracking reaction. Allylcarbinol may itself be of interest as a starting material for syntheses. From an industrial viewpoint, however, its use in hydration in standard butyl alcohol is of greater importance. There are 3 figures, 2 tables, and 15 references, 8 of which are Soviet.

Industrial Synthesis of Allylcarbinol and Standard Butyl Alcohol on the Basis of Propylene and Formaldehyde SOV/156 58-1-36/36

ASSOCIATION: Kafedra tekhnologii osnovnogo organicheskogo sinteza i OK Yaroslavskogo tekhnologicheskogo instituta (Chair of Technology of Basic Organic Synthesis and OK of the Yaroslavl' Institute of Technology)

SUBMITTED: October 3, 1957

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SOV/81-59-6-20403

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 6, pp 384-385 (USSR)

5-3831

AUTHORS: Farberov, M.I., Ustavshchikov, B.F., Kut'in, A.M., Vernova, T.F., Yarosh, Ye.V.

TITLE: The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine and 2-Methyl-5-Vinylpyridine

PERIODICAL: Yaroslavsk. prom-st' (Sovnarkhoz Yaroslavsk. ekon. adm. r-na), 1958, Nr 3, pp 15 - 21

ABSTRACT: In the condensation of 1 mole of paraldehyde and 4 moles of 40-60% (better 50%) aqueous solution of NH_3 in the presence of a catalyst (organic or inorganic salt) taken in the quantity of 1-2% based on the weight of the paraldehyde (20-30 min, 260°C, pressure 80-100 atm) 99% pure 2-methyl-5-ethylpyridine (I) is obtained, yield 75-80%, b. p. 176.7°C, $n^{20}D$ 1.4974, d_4^{20} 0.9189; as impurities α- and γ-picoline, higher pyridines and resins are formed. The reaction proceeds in the following order: $4CH_3CHO+NH_3 \rightarrow N=C(CH_3)CH=CHC(C_2H_5)=CH+4H_2O$. I, diluted by water steam in the molar ratio 1:12-1:20 is dehydrogenated in the presence of industrial dehydrogenation catalysts (K-10 and K-12) consisting of Zn, Cr, Fe and Al oxides activated by K_2O for 2

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The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine and 2-Methyl-5-Vinylpyridine

hours at 575-600°C and a volumetric rate of 500-600 ml per 1 l of catalyst in 1 hour, 97-99% pure 2-methyl-5-vinylpyridine (II) is obtained, yield 20-25% based on I having passed through, or 70-75% based on I decomposed, b. p. 75°C/15 mm, $n^{20}D$ 1.5454, d_4^{20} 0.9579. The content of II in the catalyzate is 23-27%, the yield of the catalyzate 89-91%. Pyridine, picolines, 2,5-dimethyl-, 3-ethyl- and 3-vinylpyridine are formed as impurities. II is very inclined to polymerization. S, $C_6H_2(OH)(NO_2)_3$, α-nitroso-β-naphthol and methol (sulfate salt of methylaminophenol) are used as stabilizers of II. In the process of II separation S is used as stabilizer and methol for storing (in concentrations of up to 0.001 weight %). In the case of oxidizing I by $KMnO_4$ or $Cu(NO_3)_2$, 2,5-pyridine carboxylic acid (yield 60-70%, m. p.236°C) is obtained which is converted to nicotinic acid by decarboxylizing with a yield of ~100% (m. p. 163°C). The dimethyl ester of 2,5-pyridine -dicarboxylic acid (m. p. 163°C) after reesterification by ethyleneglycol is condensed in the presence of $ZnCl_2$ into a high-polymeric resin. I with CH_2O forms 5-ethyl-2-vinyl- and 5-ethyl-2-(β-oxyethyl)-pyridine with a high yield. I is easily hydrogenated with a yield of ~100% by Na in butyl alcohol.

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The Methods of Technical Synthesis and the Application of 2-Methyl-5-Ethylpyridine and 2-Methyl-5-Vinylpyridine

and also catalytically (in the presence of Ni-catalyst) to 2-methyl-5-ethylpiperidine, b. p. 160-161°C, $n^{20}D$ 1.4530, d_4^{20} 0.8550. As it is a good raw for the industry of synthetic rubber, it can be used in the production of plastics and synthetic fibers.

Ya. Daryushevskiy

Card 3/3

5(1, 3)

AUTHORS: Farberov, M. I., Ustavshchikov, B. F., Kutlin, A. M., Vernova, T. P., Yarosh, Ye. V. SOV/153-58-5-16/26

TITLE: Technical Synthesis of 2-Methyl-5-Etnyl Pyridine and 2-Methyl-5-Vinyl-Pyridine, and Their Fields of Application (Tekhnicheskiye sintezy 2-metil-5-etilpiridina i 2-metil-5-vinilpiridina i oblasti ikh primeneniya)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 5, pp 92-99 (USSR)

ABSTRACT: The authors took the synthesis of 2-methyl-5-ethyl pyridine (MEP) from acetaldehyde and ammonia with a further dehydrogenation to 2-methyl-5-vinyl pyridine (MVP) as a basis for the working out of technical synthesis of these two substances. The papers recently published in patents (Refs 11-13) tend to show an intense elaboration of these reactions. There are, however, no publications on the first, and especially on the second stage of this process. The authors first clarified the most important rules governing the reaction between acetaldehyde and ammonia for the purpose of an industrial utilization.

Card 1/3: 1) S y n t h e s i s o f 2 - m e t h y l - 5 - e t h y l p y r i d i n e. Acetaldehyde is used as paraldehyde. This

offers much higher yields. Stoichiometric ratios (1.33 mol paraldehyde per 1 mol ammonia) could, however, not secure a sufficiently high MEP yield. The optimum ratio amounts to at least 4 mol ammonia per 1 mol paraldehyde. The presence of large quantities of water has a favorable effect. The opinions on the formation mechanism of MEP in literature contradict each other (Ref 14). Up to 30 different salts, among them $ZnCl_2$, $FeCl_2$, $SbCl_3$, $CoCl_2$, $NiCl_2$, CH_3COONa, NH_4Cl, CH_3COONH_4, NH_4F, $NH_4F.HF$, KF, KHF_2 and others served as catalysts. A catalyst was selected which corresponds to the technical process. Its concentration usually amounts to 1-2% of the paraldehyde. The reaction takes also place without catalyst, however, with much smaller yields.

2) Dehydrogenation of 2-methyl-5-ethyl pyridine. Synthesis of 2-methyl-5-vinyl pyridine. The best industrial dehydrogenating catalysts served for dehydrogenation: K-10 and K-12, which consist of zinc oxide, chromium oxides, iron and aluminum oxides, activated with potassium oxide. The partial pressure [illegible]

best decreased by dilution with steam. Figure 2 shows typical dehydrogenation curves of MEP (catalyst K-12 at 575°). Under optimum conditions the MVP yields per passed MEP amounted to 70-75%, and per decomposed MEP to 70-75%. 3) Isolation and stabilization of MVP, i.e. the separation of MEP from MVP is a difficult process as their boiling points are close to each other (176.7 and 187°). Furthermore MVP is easily polymerized. For this reason a high vacuum is required. Sulfur, picric acid, α-nitroso-β-naphthol and sulfurous methyl amine phenol (Figs 3,4) were the best stabilizers of some dozens investigated. 4) Equipment and apparatus for the MVP synthesis. Figure 5 shows a corresponding scheme. 5) The scheme (p 98) shows some more synthesis proceeding from MEP (Refs 15,16). 6) Finally, rubber and latex types on MVP basis are discussed. Some of them show better adhesion to cord from viscose and nylon, high elasticity, frost resistance, and resistance to wear and tear. Some branches of industry announce at present a high demand for these rubber types.

There are 5 figures and 18 references, 6 of which are Soviet.

Technical Synthesis of 2-Methyl-5-Ethyl Pyridine and 2-Methyl-5-Vinyl Pyridine, and Their Fields of Application

SOV/153-58-3-16/2

ASSOCIATION: Yaroslavskiy tekhnologicheskiy institut i opytnyy zavod Ministerstva khimicheskoy promyshlennosti (Yaroslavl' Technological Institute and Test Plant of the Ministry of Chemical Industry)

SUBMITTED: December 28, 1957

Card 4/4

TEPENITSYNA, Ye.P.; FARBEROV, M.I.; KUT'IN, A.M.; LEVSKAYA, G.S.

Some investigations of ethylene polymerization in the presence of complex organometallic catalysts. Vysokom.soed. 1 no.8:1148-1158 Ag '59. (MIRA 13:2)

1. Yaroslavskiy tekhnologicheskiy institut.
(Ethylene) (Polymerization) (Catalysts)

PHASE I BOOK EXPLOITATION SOV/4350

Soveshchaniye po khimii, tekhnologii i primeneniyu proizvodnykh piridina i khinolina. Riga, 1957

Khimiya, tekhnologiya i primeneniye proizvodnykh piridina i khinolina; materialy soveshchaniya (Chemistry, Technology and Utilization of Pyridine and Quinoline Derivatives. Materials of the Conference) Riga, Izd-vo AN Latviyskoy SSR, 1960. 299 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agencies: Akademiya nauk Latviyskoy SSR. Institut khimii; Vsesoyuznoye khimicheskoye obshchestvo.

Ed.: S. Bazhanova; Tech. Ed.: A. Klyavinya; Editorial Board: Yu. A. Bankovskiy, Candidate of Chemistry, E. V. Vanaga, Candidate of Chemistry (Resp. Ed.), L. P. Zalukayev, Doctor of Chemistry, and M. M. Kalnyn'.

PURPOSE: This book is intended for organic chemists and chemical engineers.

COVERAGE: The collection contains 33 articles on methods of synthesizing or producing pyridine, quinoline, and their derivatives from natural sources. No personalities are mentioned. Figures, tables, and references accompany the articles.

II. SYNTHETIC MEANS OF PREPARING PYRIDINES AND QUINOLINES

24820
S/081/61/000/011/016/040
B105/B203

15 8000

AUTHORS: Bondarenko, A. V., Karakuleva, G. I., Kut'in, A. M., Farberov, M. I.

TITLE: Synthesis of vinyl xylenes on the basis of xylenes and ethylene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 11, 1961, 1?, abstract 11?? (Uch. zap. Yaroslavsk. tekhnolog. in-ta, 1960, 5, 77-89)

TEXT: In the alkylation of m-xylene (I) by means of ethylene (molar ratio ? : ?) the minimum yield (~ ?% by weight of the resulting alkylate) in products of disproportionation (PD) with the boiling point ?-?°C [$CH_3C_6H_4C_2H_5$, $(CH_3)_2C_6H_3$] was obtained at 80-85°C and with ?% $AlCl_3$, while the yield in ethyl xylene (II) was ~ 50%, or 95-97% of the reacted (I) respectively. The polyproducts are smoothly dealkylated to (II) under the conditions of the main reaction. The effect of temperature and $AlCl_3$ concentration on the PD yield was studied. Vinyl xylene (yield ?? 30%

Card 1/2

21820

S/[illegible]/[illegible]/[illegible]/[illegible]/[illegible]
B[illegible]/B203

Synthesis of vinyl xylenes on the [illegible]

referred to the passed through, or 70.7% to the decomposed (II) is obtained by dehydrogenation of (II) on the catalyst K_2O (K_2O 87.6% ZnO [illegible]% Cr_2O_3 0.56% SiO_2 0.45% Al_2O_3 0.44% K 0) at 600 C and dilution by water vapor in a molar ratio of 1 : 12 during a contact time of 0.35-0.4 sec. The effect of temperature, contact time, and character of the catalyst on the dehydrogenation process of (II) was studied [Abstracter's note: Complete translation.]

Card 2/2

AUTHOR(S):

TITLE:

PERIODICAL:

ABSTRACT:

Card 1/2

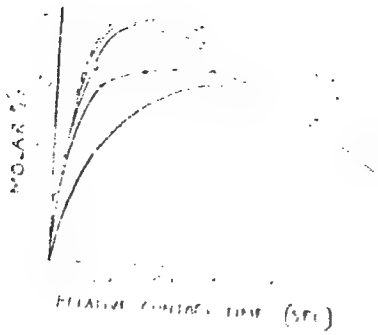
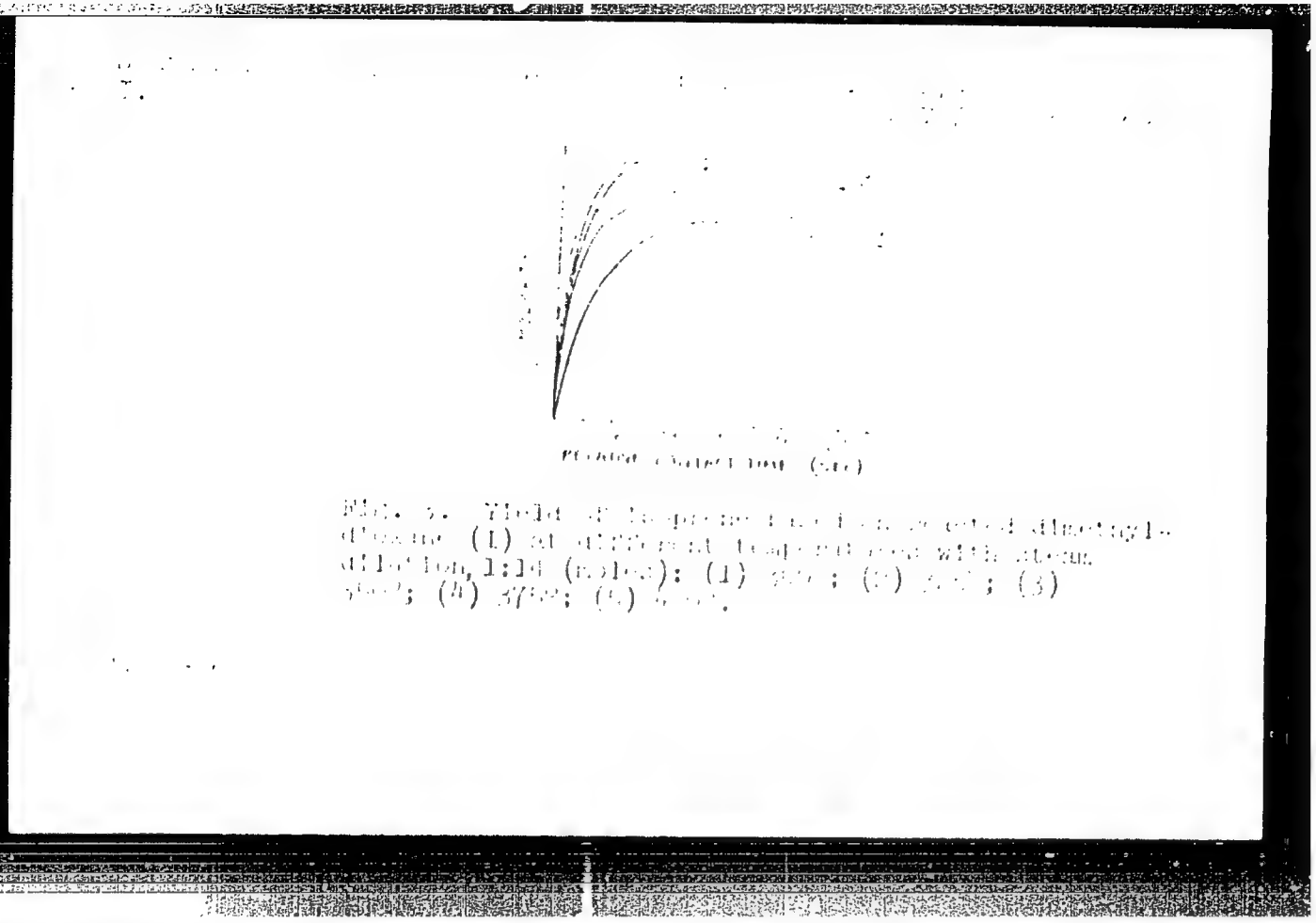


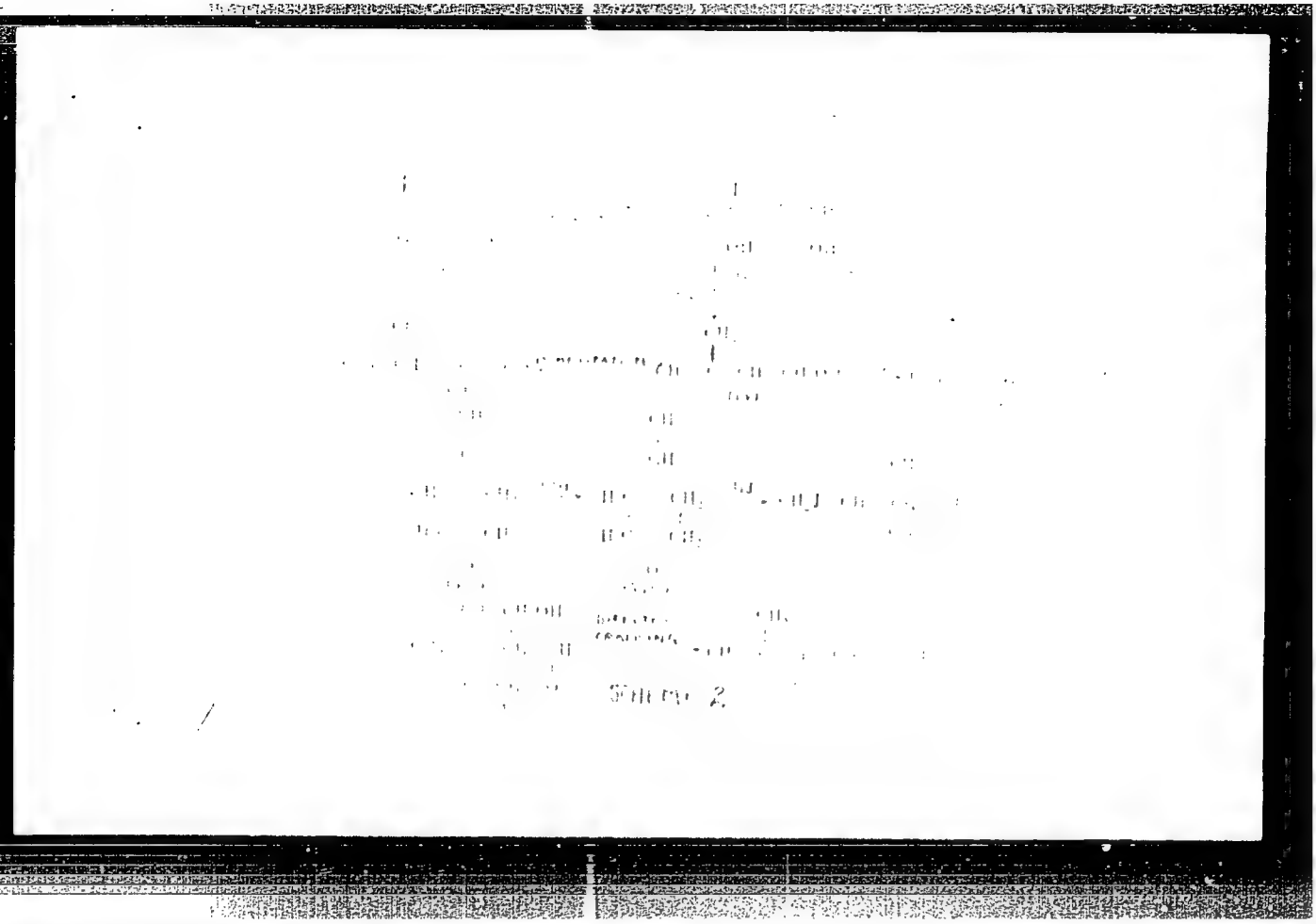
FIG. 2. [illegible]

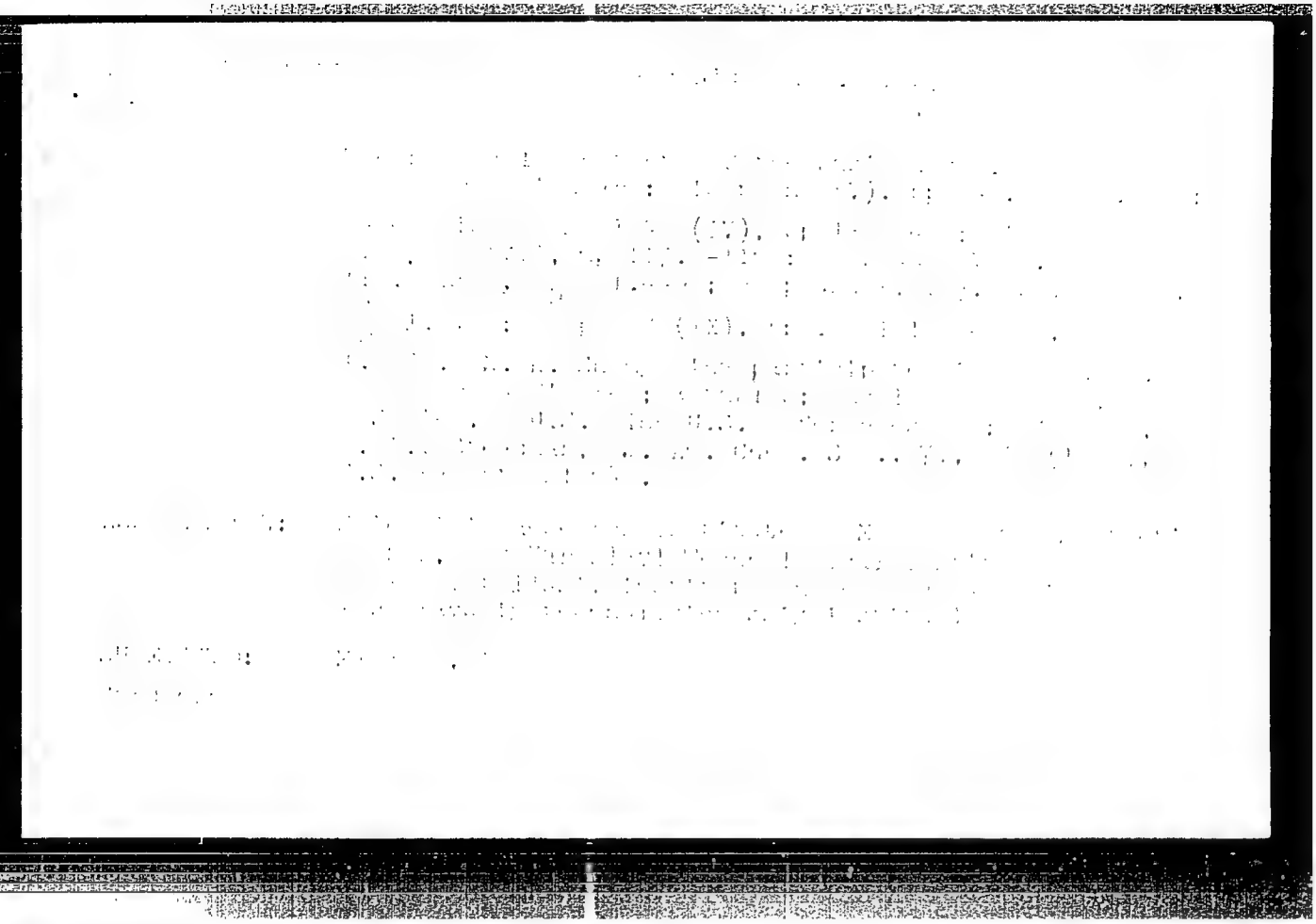
Card 2/[illegible]



Dilution of dimethyldioxane with steam significantly increases the reaction rate. An appropriate selection of the reaction conditions could yield 75-76% isoprene, based on reacted dimethyldioxane, or 90-95% isoprene, based on decomposed dimethyldioxane. Among the reaction products of isobutylene with formaldehyde, in addition to the main product, dimethyldioxane (I), diol (7-10% based on unreacted formaldehyde), and cyclic alcohol (III, 7-8%) are present. They can also be converted into isoprene over the KSD catalyst. The mechanism of reaction is shown in Scheme 2.

Card 4/6





S/079/60/030/04/09/080
B001/B016

AUTHORS: Farberov, M. I., Kut'in, A. M., Kishinskiy, G. I., Vernova, T. P.

TITLE: Diene Synthesis on the Basis of Olefins and Aldehydes. II. Synthesis of Divinyl on the Basis of Propylene and Formaldehyde

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 4, pp. 1099-1106

TEXT: Some patents in publications indicate the possibility of obtaining divinyl from 4-methyl dioxane (Ref. 5) but without an experimental basis. The authors of the present paper thoroughly investigated the contact conversion of methyl dioxane (I) (obtained from propylene and formaldehyde) in the gaseous phase by means of various catalysts (mainly metallic phosphates) in which connection divinyl is formed in high yield. It was further shown that under certain conditions divinyl and allyl carbinol (IV), approximately in the same quantity (Ref. 6), may be obtained at the same time. On the basis of previous papers (Refs. 1-4) (Scheme 1) the synthesis of divinyl

Card 1/3

Diene Synthesis on the Basis of Olefins and Aldehydes. II. Synthesis of Divinyl on the Basis of Propylene and Formaldehyde

S/079/60/030/04/09/060
B001/B01[illegible]

was carried out by allowing propylene to react with formaldehyde by means of a catalyst. As a result of the investigation of the contact conversion of the principal reaction product, methyl dioxane (Scheme), an 82% divinyl yield was obtained (calculated for the methyl dioxane having passed reaction). By a suitably conducted hydrogenation of the allyl carbinol (II) butanol-1 was obtained quantitatively. At the same time, divinyl and allyl carbinol could be synthesized in about the same quantities. The authors investigated the contact conversion of the by-product of the above-mentioned reaction, 4-hydroxy-tetrahydropyran (III), by means of the KSD catalyst, in which connection compound (VIII) (30%), divinyl (15-20%), and the unsaturated alcohol (IV) resulted. The divinyl yield could be increased up to about 70% at a higher temperature (550°). A reaction mechanism was suggested for the formation of the products which are formed on contact conversion of methyl dioxane and 4-hydroxy-tetrahydropyran. 3 diagrams and 3 tables illustrate the investigation results. There are 3 figures, 3 tables, and 13 references, 11 of which are Soviet.

Card 2/3

Diene Synthesis on the Basis of Olefins and Aldehydes. II. Synthesis of Divinyl on the Basis of Propylene and Formaldehyde

S/079/60/030/04/09/080
B001/B016

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute of Monomers of Synthetic Rubber). Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Institute of Technology)

SUBMITTED: April 7, 1958

Card 3/3

[illegible], A.V.; [illegible], USTAVSHCHIKOVA, Z.F.; FARBEROV, M.I.

Synthesis of tert-butylbenzoic [illegible]. Izv.vys.ucheb.zav.; [illegible].tekh. 7 no.3:477-485 '64. (MIRA 14:10)

1. Yaroslavskiy tekhnologicheskiy institut i nauchno-issledovatel'skiy institut sinteticheskogo kauchuka, kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.

(Benzoic

S/080/61/034/003/011/017
A057/A129

AUTHORS: Farberov, M. I.; Kut'in, A. M., Ustavshchikov, B. F., Vernova, T. P., Prolov, A. F.

TITLE: Investigation of the conditions for the synthesis of 2-methyl-5-vinylpyridine

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 3, 1961, 632 - 640

TEXT: Dehydrogenation of 2-methyl-5-ethylpyridine (MEP) was investigated in order to increase the yield of 2-methyl-5-vinylpyridine (MVP). Conditions were presented ensuring a 25 % yield of MVP in relation to the amount passed of MEP and 70 - 73 % yield in relation to decomposed MEP. Steam effects partial hydrolysis of pyridine bases and is thus not a completely inert diluent in dehydrogenation of MEP. Inhibitors for polymerization were investigated for the storage of MVP and separation from dehydrogenation products. Improvement of this dehydrogenation process is important for the manufacture of polymer materials. MVP is especially significant in the production of special types of synthesized latex and synthetic rubber according to R. Frank et al. (Ref. 1: Ind. Eng. Chem., 40, 879 (1948)), J. E. Pritchard and M. H. Opheim (Ref. 2: Ind. Eng. Chem., 46, 2242,

Card 1/9

Investigation of the conditions for .....

1954, 47, 863, 1955), H. E. Hallsback and C. C. Biard (Ref. 3: Ind. Eng. Chem., 48, 1043, 1956), and V. L. Tsaylingol'd et al. (Ref. 4: Kauchuk i rezina, 9, 1958, 3, 1959, 9, 1959), or ion exchange resins in the manufacture of synthetic fibers. The raw material - MEP - is synthesized by Chichibabin's reaction between paraaldehyde and ammonia in liquid phase according to M. I. Faberov et al. (Ref. 5: Izv. Vuzov, Khim. i khim. tekhn., 5, 92, 1958) with a 70 - 73 % yield. The present experiments were carried out (in assistance of M. Yu. Tikhvinskaya and M. A. Loginova) by a method and with a laboratory assembly described in a prior paper (Ref. 11: ZhOKh, 30, 875, 1960). Vapor pressure and liquid - vapor equilibria in the system MEP - MVP was determined on an apparatus similar to Othmer's (Ref. 12: Ind. Eng. Chem., 45, 614, 1953) especially adapted for vacuum tests. Two catalysts were used: no. 1 based on ZnO and no. 2 on Fe_2O_3, containing 86 - 88 % of the basic component, some chromium oxide and small amounts of other components, which are not specified. Since considerable carbon deposition occurs during the dehydrogenation process, the catalyst had to be regenerated after 2 - 8 hours by passing an air-steam mixture at a maximum temperature of 650° - 700°C. Results of dehydrogenation experiments with steam as diluent in varying conditions are given in Table 1. It can be seen that the yield of MVP related to decomposition of MEP decreases with the contact time. This is apparently effected by

Card 2/9

Investigation of the conditions for .....

side reactions and increasing carbon deposition. The latter depends on the type of catalyst and the degree of dilution by steam. Steam cannot be considered as inert diluent, since with increasing dilution by steam the yield of catalyzate and of MVP (based on decomposed MEP) decreases, in spite of the fact that the yield of MVP based on the amount of passed MEP increases (Figure 1). Also with increasing dilution by steam formation of gaseous products (CO_2, H_2, NH_3 etc) and the content of pyridines (α- and γ -picoline, 2,5-lutidine, 3-vinylpyridine) in the catalyzate increases. This can be explained by the reaction of pyridine bases with steam, resulting in a partial dealkylation of MEP and formation of pyridines, or total rupture of the pyridine ring with ammonia evolution. A similar reaction was observed by A. A. Baladin et al. (Ref. 8: DAN SSSR, 110, 79, 1956) on α-picoline. These side reactions of hydrolysis occur with different rates on various catalysts, thus influencing the selection of the latter. Results on dehydrogenation of MVP with other diluents are given in Table 3. The observed effect of benzene can be explained by the fact that no side reactions of hydrolysis occur. Although nitrogen does not show these side reactions, no desorption of pyridine bases from the catalyst is effected by nitrogen (contrary to benzene) resulting in thermal decomposition of these substances. Fractionation of the catalyzate at 20 torr demonstrated that the fraction boiling at 63 -

Card 3/9

Investigation of the conditions for ....

- 69°C (20 torr) [Abstracter's note: Error in original paper - 200 torr instead of 20.] has an increased refraction index and contains considerable amounts of an unsaturated compound, apparently 3-vinylpyridine. Thus the following reaction and side products were obtained in dehydrogenation of MEP: (I) α-picoline, (II) 3-ethylpyridine, (III), 2,5-lutidine, (IV) 3-vinylpyridine, (V) 2-methyl-5-ethylpyridine, (VI) 2-methyl-5-vinylpyridine. The present authors consider (I), (II) and (III) as main cracking products of MEP (in presence of hydrogen), while (IV) is a cracking product of MVP. Different stabilizers for MVP were investigated (Figure 3) and it was observed that 0.1 % of sulfur is the optimum stabilizer in fractionation of MVP. For the storage of MVP an admixture of 0.001 % methol is most efficient in stabilizing MVP for several weeks, or 0.01 % methol for several months. Liquid-vapor equilibrium in the system MEP - MVP is shown in Figure 5. Corresponding experiments demonstrated that special conditions must be maintained if a 98 - 99 % concentration of MVP should be attained in fractionation. Thus in the system the maximum temperature should be 95°C (for highly concentrated MVP only 85°C), and highly effective inhibitors should be used. There are 6 figures, 4 tables and 12 references: 8 Soviet-bloc and 4 non-Soviet-bloc.

Card 4/9

S/080/61/034/003/011/017
A057/A129

Investigation of the conditions for .....

ASSOCIATIONS: Institut monomerov dlya SK (Institute of Monomers for Synthetic Rubber) and Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Technological Institute)

SUBMITTED: June 6, 1960.

Table 1: Dehydrogenation of MVP on the catalysts no. 1 and no. 2 using steam as diluent. Legend: (1) no. of the catalyst, (2) temperature(°C), (3) nominal contact time, sec., (4) volume velcoity of the MEP supply (in ml/ml catalyst per h), (5) molar ratio H_2O/ MEP, (6) yield of the catalyzate (weight %), (7) yield of MVP based on the MEP passed (mole %), (8) yield of MVP based on the MEP decomposed (mole %), (9) carbon deposit on the catalyst (mole % based on the MEP passed).

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Card 5/9

BONDARENKO, A.V.; DOLINKINA, V.I.; KUT'IN, A.M.; FARBEROV, M.I.

Synthesis of vinylxylol based on xylene and acetaldehyde.
Khim. i khim. tekh. 1:101-107 '62. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut.

FARBEROV, M.I.; USTAVSHCHIKOV, B.F.; KUT'IN, A.M.; BUKHAREVA, V.A.

5-Ethyl-2-(β-hydroxyethyl)-pyridine. Metod. poluch. khim. reak. i prepar. no.11:108-109 '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskiy institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

L 43928-65 EWT(m)/EPF(c)/EWA(d)/EWP(j)/T/EWP(t)/EWP(z)/EWP(b) Pc-4/Pr-4
MJW/JD/RM
ACCESSION NR: AT5008621 S/2933/64/007/000/0016/0023

AUTHORS: Korshunov, M. A.; Bukhareva, V. A.; Kut'in, A. M.; Kudinova, R. N.; Yerykov, V. G.; Prokhorova, N. S.

TITLE: Synthesis of tert-dodecyl mercaptan from propylene tetramer and hydrogen sulfide in the presence of an aluminosilicate catalyst. Communication 2.

SOURCE: AN SSSR. Bashkirskiy filial. Khimiya seraorganicheskikh soyedineniy, soderzhashchikhsya v neftyakh i nefteproduktakh, v. 7, 1964, 16-23

TOPIC TAGS: mercaptan, catalysis, aluminum, silicate, hydrogen sulfide / 1Kh18N9T steel, 1Kh13 steel, Kh25 steel, Kh17T steel, 12Kh steel, 12Kh11F steel

ABSTRACT: The authors discuss a method of synthesizing tert-dodecyl mercaptan from propylene tetramer and hydrogen sulfide with aluminosilicate catalyst. The laboratory setup is illustrated. The reactor is loaded with aluminosilicate catalyst, hermetically sealed, and put under pressure of 50 atm in nitrogen gas. The pressure is then lowered and the catalyst heated at some given temperature for 2 hours in a current of nitrogen. Freshly ground propylene tetramer is placed in a buret, and liquid hydrogen sulfide is added to it under a pressure of 30 atm. The two constituents are mixed and introduced into the reactor,

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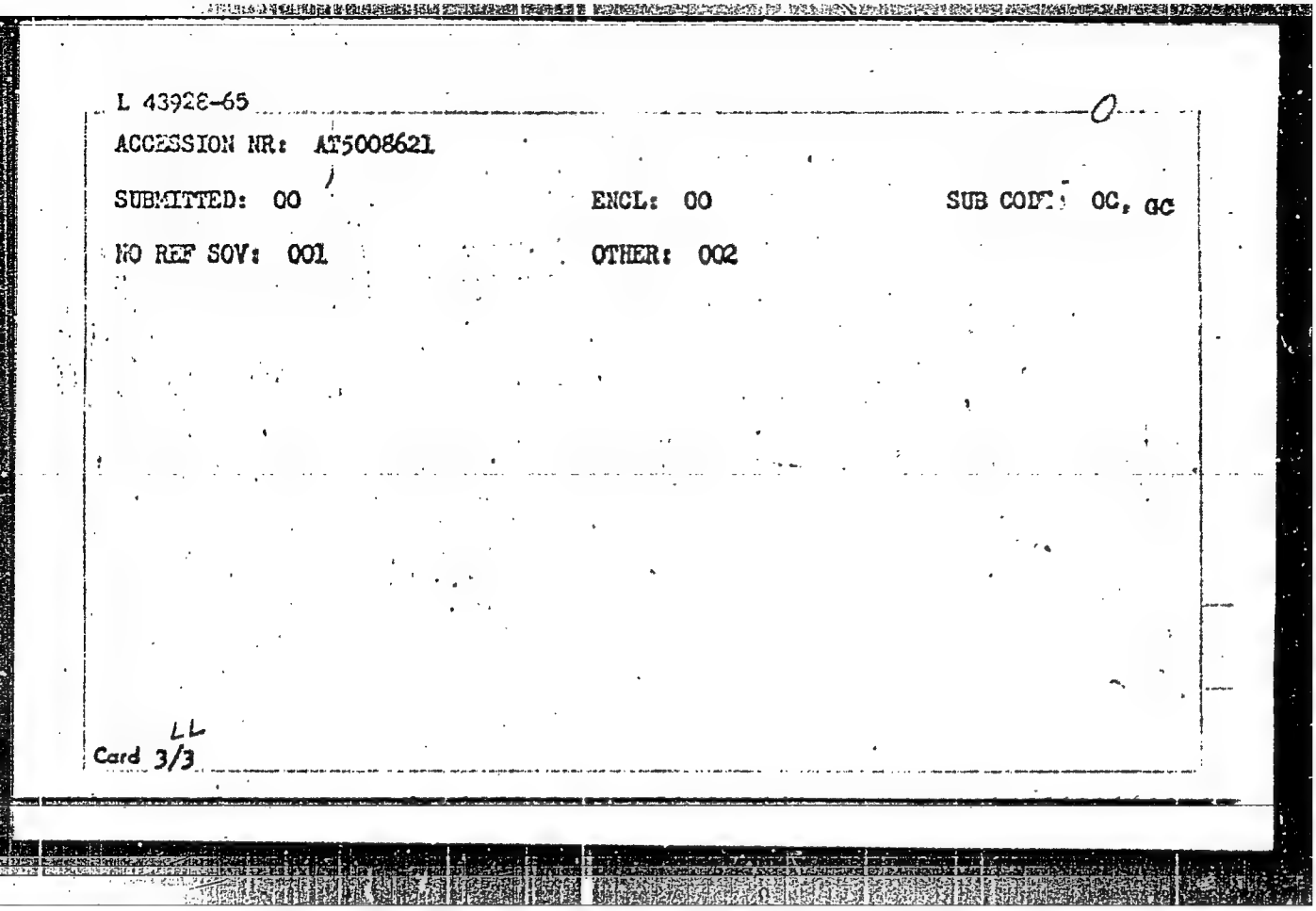
L 43928-65

ACCESSION NR: AT5008621

where the pressure is rigidly controlled. The unused hydrogen sulfide is removed, and the liquid reaction product is poured into a glass receptacle, measured, and analyzed for its dodecyl mercaptan content. Results of producing tert-dodecyl mercaptan at different temperatures, pressures, and proportions of hydrogen sulfide are tabulated. It was found that the catalyst worked for a considerable period without marked loss of activity. After 28 hours, 60% production of the mercaptan was obtained as against 70% after only 12 hours. The authors discuss regeneration of the catalyst. A number of olefins and mercaptans were obtained in the synthesizing process, and the physical properties of these compounds have been tabulated. Tests were made on the resistance to corrosion of various metal parts in the equipment used for synthesizing. Results were again tabulated. It was found that chrome and chrome-nickel steels were very resistant, but ordinary carbon steel was not. Tests on the activity of tert-dodecyl mercaptan showed it to be an effective regulator in polymerization systems with Rongalite-Trilon activating group and potassium persulfate. The technology of producing tert-dodecyl mercaptan is discussed. Orig. art. has: 3 figures and 4 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka (Scientific Research Institute of Monomers for Synthetic Rubber)

Card 2/3



L 43928-65 0

ACCESSION NR: AT5008621

SUBMITTED: 00 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 001 OTHER: 002

Card 3/3 LL

L 45263-65 EPF(c)/EWP(j)/EAT(m)/T Pc-4/Pr-4 RM
ACCESSION NR: AT5008623 S/2933/64/007/000/0031/0035

AUTHORS: Korshunov, M. A.; Bukhareva, V. A.; Kut'in, A. M.

TITLE: Synthesis of tert-dodecyl mercaptan from a tetramer of propylene and hydrogen sulfide in the presence of a Friedel Crafts catalyst

SOURCE: AN SSSR. Bashkirskiy filial. Khimiya neraorganicheskikh soyedineniy, sodorzhashchikhsya v neftyakh i nefteproduktakh, v. 7, 1964, 31-36

TOPIC TAGS: mercaptan, polymer, catalyst, Friedel Crafts reaction

ABSTRACT: Patent literature is contradictory concerning the possible syntheeis of mercaptans. The authors investigated the possibility of industrial synthesis of tert-dodecyl mercaptan in the presence of a Friedel Crafts catalyst at atmospheric pressure (or nearly so). The first catalyst employed was boron fluoride etherate (boiling point of 125-127C). It was used with the propylene tetramer fraction having a boiling point of 185-215C, purified of peroxide. Data on the reaction products are tabulated, and the authors conclude that a high yield of mercaptan may be obtained in this way and that the catalyst can probably be re-used. The original Friedel Crafts catalyst, aluminum chloride, was also used. The products and their properties are again tabulated. At 20C the effect of the aluminum

Card 1/2

L 45263-65
ACCESSION NR: AT5008623

chloride on the propylene tetramer is apparently limited only by polymerization. The amount of HCl (up to a molar ratio of 8 relative to aluminum chloride) did not affect the yield of dodecyl mercaptan. The kind of catalyzing complex changed, however, in the presence of the HCl. Maximum mercaptan yield was observed at 20-40C. Best results were obtained at a molar ratio of 0.005-0.02 of aluminum chloride to propylene tetramer. A high mercaptan content was observed from the reaction at molar ratios of 1:1 for hydrogen sulfide to propylene tetramer. An increase of this ratio to 2:1 increased the mercaptan yield 5-7%. Further increase had no effect. The reaction took place within a short time—1-2 hours. It is concluded that industrial production of tert-dodecyl mercaptan by the method described is readily feasible. Orig. art. has: 1 figure and 6 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka (Scientific Research Institute of Monomers for Synthetic Rubber)

SUBMITTED: 00	ENCL: 00	SUB CODE: OC, MT
NO REF SOV: 000	OTHER: 001	

Card 2/2

KRYUKOV, S.I.; KUT'IN, A.M.; KOMISSAROVA, G.P.; NYASIKOVA, L.D.; FARBEROV, M.I.

Dimerization of propylene by means of aluminum alkyls. Izv. vys. ucheb. zav.; khim. i khim. tekh. 7 no.5:821-826 '64. (MIRA 18:1)

1. Yaroslavskiy tekhnologicheskiy institut. Kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.

FARBEROV, M.I.; USTAVSHCHIKOV, B.F.; KUT'IN, A.M.; BARANOVA, T.I.

Isocinchomeronic acid. Metod. poluch. khim. reak. i prepar. no.11:60-62 '64. (MIRA 18:12)

1. Yaroslavskiy tekhnologicheskiy institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

KUTIN, A.M., inzh.; KYZHIKH, V.S., inzh.; BEKKER, R.G., inzh.

A voltage indicator. Prom. energ. 19 no.11:21-22 N '64.
(MIR: 18:1)

L 7879-66 EWT(m)/EPF(c)/EWP(j)/T RPL RM

ACC NR: AP5025030 SOURCE CODE: UR/0286/65/000/016/0083/0083

AUTHORS: Belyayev, V. A.; Gromova, V. A.; Zemit, S. V.; Kavrayskaya, N. L.; Koppylov, Ye. P.; Kosmodem'yanskiy, L. Y.; Kostin, D. L.; Kut'ina, A. M.; Lazaryants, K. G.; Romanova, N. G.; Tsaylingol'd, V. L.; Shikhaleva, K. P.; Shushkina, Ye. N.

ORG: none

TITLE: Method for obtaining synthetic rubber. Class 39, No. 173942

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 83

TOPIC TAGS: rubber, synthetic rubber, butadiene, styrene, polymer, copolymer, polymerization

ABSTRACT: This Author Certificate presents a method for obtaining synthetic rubber by polymerization or copolymerization of dienes with vinyl monomers, for example, butadiene with α-methylstyrene in aqueous emulsion at low temperatures in the presence of known free-radical-initiators and regulators employing emulsifiers. To improve the polymer properties, esters of monoalkylbenzoic acid are used as emulsifiers.

SUB CODE: 11,07/ SUBM DATE: 03Jul63

Card 1/1 UDC: 678.762 678.762-134

CHERNOUSOV, N.P.; KUTIN, A.N.; FEDOROV, V.F.; KOZULIN, N.A., doktor tekhn. nauk, prof., retsenzent

[Air-tight chemical and technological machinery and apparatus] Germeticheskie khimiko-tekhnologicheskie mashiny i apparaty. Moskva, Mashinostroenie, 1965. 351 p. (MIRA 18:7)

AUTHOR: KUTIN,B.N. PA - 2556

TITLE: On Calculation of Correlation Function of Stationary Random Process through Experimental Data. (O vychislenii korrelyatsionnoy funktsii statsionarnogo sluchaynogo protsessa po eksperimental'nym dannym, Russian)

PERIODICAL: Avtomatika i Telemekhanika, 1957, Vol 18, Nr 3, pp 201-222 (U.S.S.R.)

Received: 4 / 1957 Reviewed: 5 / 1957

ABSTRACT: In practice the correlation function is found by the evaluation of the curves. On this occasion errors arise in connection with the finity of time when observing a chance process $x(t)$. The task of the present work was to evaluate these errors. Results obtained make it possible, for a steady chance process $x(t)$, to compute the average quadratic errors $\sigma(\tau)$ according to the experimental data of the correlation function. It is shown that when computing these errors it is necessary to take the difference of the kind of correlation functions and the methods of their approximated computation into account. It is necessary to distinguish between: the correlation function $R(\tau)=M[x(t)x(t+\tau)]$, and the average correlation function $B(\tau)=M[(x(t)-m)(x(t+\tau)-m)]$, where $m=M[x(t)]$, the normalized correlation function

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PA 2556

On Calculation of Correlation Function of Stationary Random Process through Experimental Data.

$$\rho(\tau) = \frac{R(\tau)}{R(0)}$$

and the normalized average correlation function $\beta(\tau)$ $\frac{B(\tau)}{B(0)}$

The time of observation T_B of a chance process $x(t)$ must, for the accuracy demanded, be selected when determining these functions at given values of the time shift τ.
M - the sign of mathematical expectation, t - current time.
(5 illustrations and 8 Citations from Slav Publications).

ASSOCIATION: Not given
PRESENTED BY:
SUBMITTED: 29. 12. 1955
AVAILABLE: Library of Congress

Card 2/2

USSR/Cultivated Plants - Potatoes. Vegetables. Melons. M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53668

Author : Belyakov, E.V., Kutilin, G.G.

Inst : Zhitomir Agricultural Institute

Title : The Effect of Azotobacter on Eye Sprouting and the Yield of Potato Tubers. (With Regard to the Question of the Mechanism of Azotobacter Action)

Ori Pub : Nauchn. tr. Zhitomirsk. s.-kh. in-t, 1957, 4, 145-152

Abstract : This article gives the results of a laboratory experiment with potatoes showing that the treatment of the tubers with azotobacterin has some stimulating effect on the awakening of the eyes and the initial growth of the sprouts. However, this effect is very slight and is weaker than the cutting of tubers. In the field experiment, the treatment of whole tubers with azotobacterin

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USSR/Cultivated Plants - Potatoes, Vegetables, Melons. M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53608

did not produce a proved increase in the yield. Cutting the tubers raised the yield by 20%, and cutting in combination with the treatment of the tubers with azotobacterin increased it by 33%. The positive effect of cutting tubers is explained by the intensification of the growth processes in the tubers. Cutting the tubers also increased the assimilation of the azotobacter. -- G.N. Chernov

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(Construction industry--Safety measures)

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"Enemies" become friends. Okhr.truda i sots.strakh. 6 no.1:19 Ja '63. (MIRA 16:1)
(Sverdlovsk--Construction industry--Hygienic aspects)

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Be more exacting in observing the plan of the organization of work. Bezop. truda v prom. 3 no.6:22 Je '59. (MIRA 12:10)
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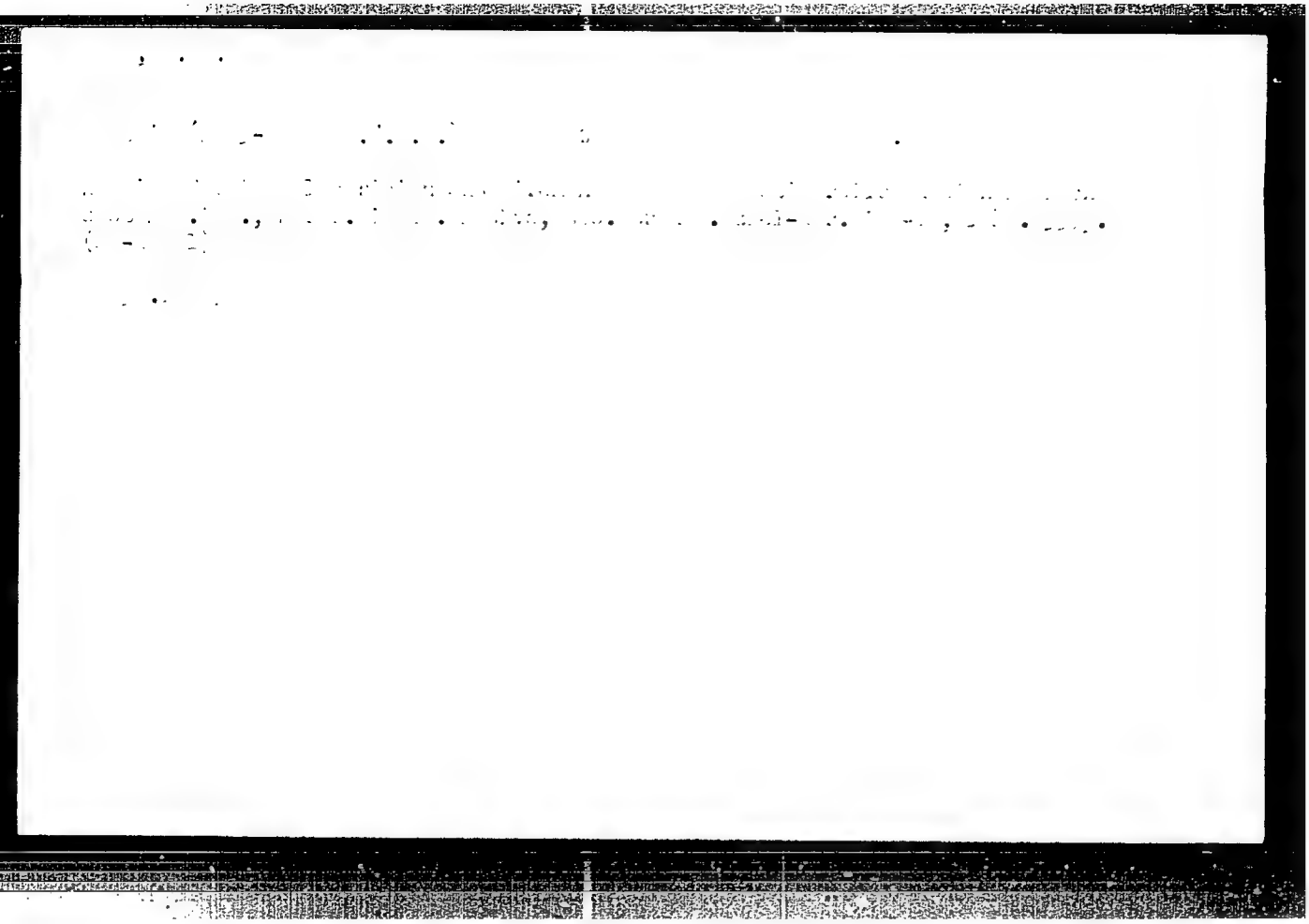

BRYLEYEV, A.M., laureat Stalinskoy premii, inzhener; GAMBURG, Ye.Yu., inzhener, retsenzent; GOLOVKIN, M.K., inzhener, retsenzent; KAZAKOV, A.A., kandidat tekhnicheskikh nauk, retsenzent; KUT'IN, I.M., dotsent, kandidat tekhnicheskikh nauk, retsenzent; LEONOV, A.A., inzhener, retsenzent; SEMENOV, N.M., laureat Stalinskoy premii, inzhener, retsenzent; CHERNYSHEV, V.B., inzhener, retsenzent; VALUYEV, G.A., inzhener, retsenzent; METTAS, N.A., laureat Stalinskoy premii, inzhener, retsenzent; NOVIKOV, V.A., dotsent, retsenzent; PIVOVAROV, A.L., inzhener, retsenzent; POGODIN, A.M., inzhener, retsenzent; KHOLOKOV, L.R., inzhener, retsenzent; PIVOVAROV, A.L., inzhener, retsenzent; POGODIN, A.M., inzhener, retsenzent; KHODOROV, L.R., inzhener, retsenzent; SHUPLOV, V.I., kandidat tekhnicheskikh nauk, retsenzent; KLYKOV, A.F., inzhener, retsenzent; YUDZON, D.M., tekhnicheskiy redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[Technical handbook for railroad men] Tekhnicheskii spravochnik zheleznodorozhnika. Vol. 8. [Signaling, central control, block system, and communication] Signalizatsiia, tsentralizatsiia, blokirovka, sviaz'. Red. kollegiia A.F.Baranov [i dr.] Glav.red. E.F.Rudoi. Moskva, Gos. transp. zhel-dor. izd-vo, 1952. 975 p. (Card 2) (MLRA 8:2)
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